

# BACILLUS SPP.: HOW IT WORKS

Phosphorus plays a critical role in crop production, as it's used for energy storage and transfer and is vital to the crop's growth. However, the risk of phosphorous deficiency is heightened by its low mobility within the soil and its relative insolubility. *Bacillus spp.*, the bioactives in SYNTHOS® nutrient enhancer, can help improve the solubilization of phosphorus fertilizer into plant-available forms, allowing increased nutrient uptake.

## BACILLUS — THE BIOACTIVE INGREDIENT

SYNTHOS, a plant growth-promoting rhizobacteria (PGPR) product, has a unique formulation containing five specific strains of *Bacillus* in the form of colony-forming spores. These bacteria colonize the crop's roots, or rhizosphere, and produce organic acids and enzymes. This improves the solubilization of phosphorus fertilizer into forms accessible to the plant, releasing bound nutrients. The bacteria also produce growth metabolites that promote a more robust root system, therefore improving nutrient and water uptake and optimizing the crop's growth.

## PLANT UPTAKE VARIABLES

Two factors influence the amount of phosphorus taken up by the plant:

1. The quantity of phosphorus in the labile pool
2. The rate of flux, or solubilization, of phosphorus between the labile pool and soil solution

## THE CONFIDENT CHOICE IN PHOSPHORUS EFFICIENCY.

For more information and to learn how SYNTHOS can help boost your operation's nutrient use efficiency, visit [SYNTHOSBiological.ca](https://www.SYNTHOSBiological.ca).

## HOW *BACILLUS* HELPS OPTIMIZE PHOSPHORUS UPTAKE

